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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,719	11/29/2005	Marc Andre De Samber	NL 030649	7189
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EXAMINER LEIBY, CHRISTOPHER E				
ART UNIT 2629		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/558,719

Applicant(s)

DE SAMBER ET AL.

Examiner

CHRISTOPHER E. LEIBY

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Detailed Action

1. **Claims 1-15** are pending.
2. Prosecution of the current applicant has been transferred to examiner **Christopher E. Leiby** wherein all future communications should be directed, contact information disclosed below.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. **Claims 1-5 and 7-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Liess et al.** (US Application Publication 2002/0104957), herein after referred to as **Liess**, in view of **Visser** (US Patent Application Publication 2008/0284734), and further in view of **Gordon** (European Patent Application 1182606A2).

Regarding **independent claims 1 and 14* and dependent claims 3, 12, and 13**, **Liess** discloses an opto-electronic input device and method (*Figures 1a, 1b, 9a and abstract*), wherein the input is formed by detected movements of an object (*figure 1a wherein detection of object 15, a finger, is done via laser diode 3 and photo diode 4 also figure 9a which discloses the same as figures 1a and 1b however as disclosed in*

paragraph [0110]-[0111] if side emitting laser diodes are found cheaper and therefore a modification to figure 1a would look like figure 9a which still has photo diodes and the ability to detect movements of the finger 15 as shown in figure 1a even though not disclosed in figure 9a), which input device is provided with an optical module (figure 9a reference 10) comprising at least one laser (figure 9a reference 3) with a resonant cavity for generating a measurement radiation beam (figure 9a reference 71), optical means (figure 9a reference 64) for guiding the radiation beam to a plate (figure 9a reference 12) close to the object, and conversion means for converting radiation from the measurement radiation beam (paragraph [0111] and description of detection of an object as disclosed above), which is reflected by the object, into an electric signal, wherein the conversion means are formed by the combination of the resonant cavity of the laser and measurement means for measuring a change in the resonant cavity during operation (abstract reference operation of photodiode), which change is caused by interference of the reflected radiation from the measurement radiation beam, which penetrates the resonant cavity, and the standing wave in the resonant cavity, and which is representative of a relative movement of the object with respect to the module (again reference operation of photo diode in abstract also reference figure 9a which depicts a beam 71 which would be deflected by a finger 15 shown in figure 1a and detected by photo diode 4 also shown in figure 1a and paragraph [0111]), wherein the optical module comprises the laser mounted on a carrier plate (figure 9a reference 3 mounted on an unreferenced board, disclosed as numeral 1 in figure 1a), and the optical means comprise an optical component mounted on the carrier plate and aligned with the laser (figure 9a reference 64 also on the board aligned with laser 3 also reference paragraph

[0111]), from which optical component the measurement radiation beam emitted by the laser travels to the plate close to the object (*figure 9a reference beam 70 and 71*), wherein the plate comprises, close to the object, a first portion that comprises an upper surface of a transparent block-shaped body which is situated within a projection of the object (*figure 9a reference surface of 12 disclosed as transparent plastic or glass in paragraph [0111]*), wherein the transparent block-shaped body is configured to enable passage of the radiation beam upon entering near a lower side of the transparent block-shaped body (*figure 9a reference beam 71 entering the low side of portion 12*) and is situated in a fixed position with respect to the carrier plate (*figure 9a reference fixed position of top surface in reference to carrier plate*), in that the transparent block-shaped body is mounted onto the carrier plate (*figure 9a reference 12 mounted onto surface 1 which comprises carrier plate*).

Liess does not disclose a second portion which is situated within a projection of the object and is movable in a direction perpendicular to the carrier plate, wherein the second portion comprises signaling means which, response to movement of the second portion in the direction perpendicular to the carrier plate, is configured to issue a signal that can be perceived by a user of the device nor that the first portion is enabled to allow multiple internal reflections against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body.

Regarding the second portion Visser discloses the invention of Liess figure 1a with identical parts (*figure 1*) and allows the invention to be pressed/clicked by measuring the Z axis (*paragraphs [0024]—[0026]*).

Gordon discloses issuance of a signal to be perceived by a user upon clicking of the portion done by pressing done on an imager similar to that of Liess and Visser (*paragraph [0013] and column 5 lines 35-37*).

It would have been obvious to one skilled in the art at the time of the invention to allow Liess' invention to detect Z axis movements of objects as disclosed by Visser in order to determine clicks and have a device to perform more functions without additional hardware/parts.

Further it would have been obvious to one skilled in the art at the time of the invention that determination of a click would emit an audible response as disclosed by Gordon so the operator is aware of their action (*column 5 lines 35-37*).

Regarding the subject matter of having the transparent block-shaped body to allow multiple internal reflections against it's sideways heading towards the upper surface is seen as a design preference by the examiner. No wherein the applicant's discloser states the improvement or advantage of such a structure besides a way to allow light to reach the surface as Liess, Visser, and Gordon all disclose.

It would have been obvious to one skilled in the art at the time of the invention that there are many ways to reflect light to a surface of an object, including multiple internal reflections, and that Liess' method using a lens

negates the need of an object enabling internal reflections and any other need of additional parts. Therefor, Liess' portion 12 and lens 10 allows the light to travel, with less parts, to the surface in an obvious variation to that of an object enabling multiple internal reflections.

*The claim language of independent claim 14 is not identical to independent claim 1, however, the subject matter is either very similar to the disclosed subject matter or discussed within the rejection of independent claim 1 and therefor will not be repeated.

Regarding **claim 2**, Gordon disclose an opto-electronic device, characterized in that the signaling means comprise a press button which springs back after it has been pressed, and which provides an experience for the tactile sense of the user when it is pressed (*column 5 lines 32-35 in paragraph [0013]*).

Regarding **claim 4**, the subject matter wherein the press button specifically comprises a thin, bent membrane of steel is seen as a design preference by the examiner. No where in the applicant's discloser states the improvement or advantage of such a structure besides a way to allow a tactile sensation of pressing for the user.

It would have been obvious to one skilled in the art at the time of the invention that there are many ways to allow tactile sensation to a user from a press button, and that Gordon's method of using the entire imager to be pressed down (*column 5 lines 32-35 in paragraph [0013]*) negates the need of a thin bent membrane of steel and any other need of additional parts. Therefor, Gordon's

method of pressing the entire portion as a tactile sensation allows a tactile sensation to the user, with less parts, in an obvious variation to that of the button comprising a thin bent membrane of steel.

Regarding **claim 5**, none of the applied references disclose an opto-electronic device, further comprising a microphone configured to convert the acoustic signal of the press button to an electric signal.

Gordon does disclose emitting a sound when the device is pressed and also that the device itself can also be pressed.

It would have been obvious to one skilled in the art at the time of the invention that if the device were to emit a sound to indicate the clicking function that the signal is already electrical and does not require conversion and therefore saves cost, manufacturing complexity, and requires less parts for doing the same action.

Regarding **claim 7**, Liess discloses an opto-electronic device, wherein the transparent block-shaped body of the first portion of the plate comprises a round, transparent, block-shaped body which is attached onto the carrier plate (*figure 9a reference round block shape 12 attached to surface 1 which also comprises carrier plate*), and the press button comprises, in the center thereof, a round opening within which the round, transparent, block-shaped body is situated, the upper face of said block-shaped body being substantially flush with an upper face of the press button, or being situated lower by an amount necessary to enable the press

button to be pressed (*reference rejection of claim 1 discussing first and second portions and figure 9a which is round and allows pressing according to rejection of claims 2 and 4*).

Regarding **claim 8**, Liess discloses an opto-electronic device, characterized in that the first portion of the plate comprises a ring-shaped, transparent, block-shaped body which is attached onto the carrier plate, and the press button is situated within the block-shaped body the upper face of which is substantially flush with an upper face of the press button (*figures 9a and 9b also look at rejections of claim 1, 2, 4, and 7 for explanation of portions and pressing*).

Regarding **claims 9 and 15**, Liess discloses an opto-electronic device, wherein, near a lower side of the transparent block-shaped body, the measurement radiation beam is introduced into said transparent block-shaped body at an angle such that the measurement radiation beam moves spirally to an upper side of the transparent block-shaped body (*figure 9a reference beams 71 after being adjusted by 64 from original beam 70*).

Regarding **claim 10**, Liess discloses an opto-electronic device, wherein the dimensions of the first and second portions the plate are suitable for an object that is formed by a human finger (*figure 1a reference finger 15 suitably over portions of described in the combination*).

Regarding **claim 11**, Liess discloses an opto-electronic device, wherein the laser is attached onto the carrier plate in such a manner that the resonant cavity of the laser is parallel to said carrier plate (*figure 9a reference 3 and photodiode, shown in figure 1a as 4, are all parallel to each other due to collimation of the beam via lens 10*).

5. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Liess - Visser - Gordon** in view of **Wenstrand et al.** (US Patent Application Publication 2004/0155860), herein after referred to as Wenstrand.

Regarding **claim 6**, none of the applied references specifically disclose an opto-electronic device, wherein the electric signal is used to wake up the device from an energy-saving sleep mode.

Wenstrand discloses a method for an input device wherein in periods of inactivity the mouse enters a sleep/power saving mode and "wakes up" when a input or movement is detected (*paragraphs [0003]-[0004]*).

It would have been obvious to one skilled in the art at the time of the invention to enable the combination of claim 1 to further include a sleep mode for periods of inactivity to reduce energy consumption as disclosed by Wenstrand (*paragraph [0003]*).

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER E. LEIBY whose telephone number is (571)270-3142. The examiner can normally be reached on 9 - 5 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CL

January 27th, 2009

/Richard Hjerpe/
Supervisory Patent Examiner, Art Unit 2629